



**NEBRASKA CENTER FOR RESEARCH ON
CHILDREN, YOUTH, FAMILIES & SCHOOLS**

*College of Education & Human Sciences
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**Nebraska School Improvement Grants: A
Framework for Evaluating Fidelity and Impact**

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Executive Summary

The Nebraska Department of Education (NDE) began awarding Local Education Agencies (LEA) School Improvement Grants (SIG) in the fall of 2009. Since then, funding has been provided to 21 persistently low achieving Nebraska schools demonstrating the greatest need for funds to realize sustainable improvements. Per federal requirements, 18 of the 21 schools receiving funds implemented an approved SIG model. The *Transformation* model was chosen by 17 Nebraska schools while the *Turnaround* model was chosen by 1 school.

The Nebraska Bureau for Education Research, Evaluation and Policy (EREP) began contracting with NDE in 2014-2015 to conduct an evaluation of SIG. EREP initially focused on developing a framework for evaluating SIG on an annual basis. This framework utilized the Context-Input-Process-Product (CIPP) evaluation model for addressing questions related to *fidelity* and *impact* on students. This report summarizes results from implementing this framework in the 2015-2016 school year.

Results from the 2015-2016 evaluation are largely descriptive. Trend analyses of key outcome measures beginning in 2010 – 2011 and ending in the 2014-2015 school year demonstrate an inconclusive overall interpretation of the impact of SIG funds. Students in schools that have received SIGs generally demonstrate improvement in NeSA Reading and Math scores, with the largest improvement occurring the year immediately after receiving the funds. While this trend is consistent across SIG cohorts, it does not deviate from similar trends of improvement observed in other Title I schools. There are instances where a SIG school within a particular cohort does deviate from the other Title I schools. These are instances where further study of the activities conducted within the school would be informative in understanding the role of fidelity of implementation. A detailed discussion of these topics is included in the remainder of this report.

Introduction

As part of the Elementary and Secondary Education Act (ESEA), State Educational Agencies (SEAs) are awarded School Improvement Grants (SIGs) to aid the lowest achieving schools in their respective state. The SIGs, authorized under section 1003(g) of Title I, are then distributed by the SEAs to Local Education Agencies via a competitive process. Schools identified by their LEAs as the most in need of funds and the most committed to improvement are awarded the funds with the primary goal to improve student achievement.

SIG Models

Per federal guidelines put forth in 2010, schools receiving SIG funds are required to use one of the following models:

- **Transformation:** Implement each of the following strategies: (1) replace the principal and take steps to increase teacher and school leader effectiveness; (2) institute comprehensive instructional reforms; (3) increase learning time and create community-oriented schools; and (4) provide operational flexibility and sustained support.
- **Turnaround:** Replace the principal and rehire no more than 50% of the staff, and grant the principal sufficient operational flexibility (including in staffing, calendars/time and budgeting) to fully implement a comprehensive approach to substantially improve student outcomes.
- **Restart:** Convert a school or close and reopen it under a charter school operator, a charter management organization, or an education management organization that has been selected through a rigorous review process.
- **School closure:** Close a school and enroll the students who attended that school in other schools in the district that are higher achieving.

These guidelines were amended in February of 2015 to include additional models, including:

- **State Developed Alternative Model:** Implement a state-developed model given it is approved by the U.S. Secretary of Education and addresses the Department of Education's Turnaround principles.
- **Evidence-Based, Whole-School Reform Strategy:** Implement a whole-school reform strategy in conjunction with a third-party strategy developer. Evidence consistent with the What Works Clearinghouse standards must be presented to support the efficacy of the strategy.
- **Early Learning Model:** Must include the implementation of a number of early learning strategies including offering full-day kindergarten, establishing a high-quality preschool program, replacing the previous principal, implementing rigorous evaluation systems for teachers and principals, among others.

Another key aspect of the amendment was the potential for a school to receive a 5-year award as opposed to the previous 3-year award. For more detailed information the amendments to the SIG program, refer to *School Improvement Grants: Guidance and Tools for the 2015 Amended Regulations* (Redding, Dunn & McCauley, 2015).

SIG Effectiveness Studies

The Institute of Education Sciences (IES) has undergone a number of efforts to identify the impact of the SIGs across the nation. The largest and most comprehensive of which is a six-year, 15 million dollar, study titled *Implementation and Impact Evaluation of Race to the Top and School Improvement Grants*. The National Center for Education Evaluation and Regional Assistance (NCEE), a center of IES is contracting with Mathematica Policy Research, Inc., American Institutes for Research, and Social Policy Research Associates to conduct the study. To date, one report and four companion briefs have been released with a the final report expected in September of 2016. In addition to the implementation and impact study, NCEE has released various reports and briefs related to SIGs. The table below displays information about the various releases; all reports and briefs can be found via the NCEE website at <http://ies.ed.gov/ncee/>.

Table 1. NCEE Reports Related to SIG.

Title	Type	Date Released
<i>Baseline Analyses of SIG Applications and SIG-Eligible and SIG-Awarded Schools</i>	Report	May 2011
<i>School Improvement Grants: Analyses of State Applications and Eligible and Awarded Schools</i>	Report	October 2012
<i>A Focused Look at Schools Receiving School Improvement Grants That Have Percentages of English Language Learners</i>	Evaluation Brief	April 2014
<i>Operational Authority, Support, and Monitoring of School Turnaround</i>	Evaluation Brief	October 2014
<i>Are Low-Performing Schools Adopting Practices Promoted by School Improvement Grants?</i>	Evaluation Brief	October 2014
<i>Building Teacher Capacity to Support English Language Learners in Schools Receiving School Improvement Grants</i>	Evaluation Brief	November 2015
<i>State Capacity to Support School Turnaround</i>	Evaluation Brief	May 2015
<i>Usage of Practices Promoted by School Improvement Grants</i>	Report	September 2015
<i>Case Studies of Schools Receiving School Improvement Grants: Final Report</i>	Report	April 2016

Focus of the Current Report

Since the re-inception of SIGs in 2010, the Nebraska Department of Education (NDE) has awarded SIGs to 21 schools. This report represents an external evaluation of the SIG's awarded to these 18 schools. To guide this evaluation, 2 general questions were posed:

- 1) Are the schools implementing their respective school improvement model with *fidelity*?
- 2) What *impact* does SIG funding have on student and teacher outcomes in Title I: Needs Improvement schools receiving SIGs?
 - a. What impact does SIG funding have on student academic achievement?
 - b. What impact does SIG funding have on student participation in school (i.e., attendance, behavior, retention, graduation)?

Evaluation Framework

As part of 2013-2014 contract requirements, EREP provided NDE a framework for evaluating SIGs in Nebraska schools. This framework was based on the Stufflebeam’s Context, Input, Process, and Product evaluation model (CIPP; Stufflebeam, 2003). The following sections provide evaluation information within each component of the CIPP model.

Context

In the summer of 2015, the Nebraska Department of Education distributed funds to the sixth cohort of School Improvement grantees. Since 2010-2011, there have been a total of 21 schools that have received funds under the program; 12 elementary schools, 3 middle schools, and 6 high schools. Table 1 provides the district and schools represented within each cohort. The following section provides brief contextual information for schools within each cohort.

Table 2. SIG Districts and Schools by Cohort.

Cohort	District	School
1	Crawford Public Schools	Crawford Elementary
	Santee Community Schools	Santee High Santee Elementary
	Lincoln Public Schools	Elliott Elementary
	Madison Public Schools	Madison Elementary
	Minatare Public Schools	Minatare Elementary
2	Winnebago Public Schools	Winnebago High
	Madison Community Schools	Madison Middle
	Stapleton Public Schools	Stapleton Elementary
3	Walthill Public Schools	Walthill Elementary Walthill High
	Umo N Ho N Nation	Umo N Ho N Nation Elementary Umo N Ho N Nation Middle Umo N Ho N Nation High
4	Shelton Public Schools	Shelton Elementary
	Winnebago Public Schools	Winnebago Elementary
5	Westside Community Schools	Westbrook Elementary
	Schuyler Community Schools	Schuyler Middle
	Madison Public Schools	Madison High
6	Lincoln Public Schools	Lincoln High
	Omaha Public Schools	Wakonda Elementary

School Background Information

As part of Nebraska SIG **Cohort 1**, 5 elementary schools and 2 high schools representing 6 districts received funds prior to the beginning of the 2010-2011 school year. All of these schools were defined by NDE as Tier I Schools. *Crawford Elementary School* serves approximately 125 students from pre-K through 6th grade. Located in the community of Crawford, a small rural community of 1000 people located in the far northwestern corner of the state, ethnic diversity is very limited with approximately 95% of the student population being White. *Santee Community Schools* serves approximately 149 students within the confines of the Santee Sioux Nation Reservation in Northeast Nebraska. Located in the village of Santee, a community of approximately 500 people. The student population is nearly 90% Native American, the majority of whom are from low socio-economic families. Approximately 50% of Santee

students live in a single parent or grandparent as caregiver home in the community of Crawford, Nebraska. *Elliott Elementary* Belongs to the Lincoln Public School district, the second largest public school district in Nebraska. Elliott's strength lies in its diversity. The ethnic breakdown does not capture the cultural and linguistic diversity of the school. There is a growing population of children, new to the United States from the Middle East and Europe, reflected in the ethnic code of white. There are 26 first languages spoken by the children at Elliott. *Madison Elementary School* Located in the community of Madison, Nebraska. The community of nearly 2400 people is situated in Northeast Nebraska. Madison Elementary School serves a high proportion of Hispanic students. *Minatare Elementary School* A rural school located in the far western Nebraska community of Minatare. The Minatare community has a population just over 800. Approximately 80% of the students are designated with free or reduced lunch status and over 44% are minority students. *Winnebago Public Schools* Located in northeastern Nebraska in Winnebago, a village of less than 800 residents. The student body is approximately 93% American Indian. The majority of the students are members of the Winnebago Tribe of Nebraska.

As part of Nebraska SIG **Cohort 2**, 2 elementary schools, 1 middle school, and 1 high school representing 3 districts received funds prior to the beginning of the 2011-2012 school year. All of these schools were defined by NDE as Tier I Schools. *Stapleton Elementary School* Located in Stapleton, NE, a small rural community located in the Sandhills of Nebraska. The elementary school serves 116 students, where the student body is drawn primarily from Logan county although there is a significant number of option students from Lincoln county. *Walthill Public Schools* received funds to support Walthill Elementary and Walthill High School. Located in a village in Thurston County, Nebraska, within the Omaha Reservation. The student population is 99% Native American and 85% students meet the poverty guidelines for free and reduced lunch. *Madison Middle School* Located in the community of Madison, Nebraska. The community of nearly 2400 people is situated in Northeast Nebraska. Madison Middle School serves a high proportion of Hispanic students.

As part of Nebraska SIG **Cohort 3**, a single district received funds prior to the beginning of the 2012-2013 school year to support their elementary, middle and high school. All of these schools were defined by NDE as Tier I Schools. *Umo N Ho N Nation Public Schools*, known as Omaha Nation Public Schools is a PK-12 system serving a student population of approximately 500. Approximately 99% of the students are Native American with the majority being Omaha Tribal Members. Omaha Nation Public Schools is located on the Omaha Reservation in Macy, NE.

As part of Nebraska SIG **Cohort 4**, 2 elementary schools representing 2 district received funds prior to the beginning of the 2013-2014 school year. Shelton Elementary was defined as a Tier I school while Winnebago Elementary was defined as a Tier III school. *Shelton Elementary School* located in south central Nebraska and serves students PK-6. About 49% of the students participate in the free/reduced lunch program and has the benefit of small class sizes. *Winnebago Elementary School* K-8 school located in northeastern Nebraska. The K-8 enrollment averages 370 elementary students. The student population is 99% American Indian. The majority of the students are members of the Winnebago Tribe of Nebraska.

As part of Nebraska SIG **Cohort 5**, an elementary, middle and high school from 3 separate districts received funds prior to the beginning of the 2014-2015 school year. Schuyler Middle School was defined as a Tier I school while Madison High School and Westbrook Elementary School were defined as Tier III

schools. *Madison High School* Located in the community of Madison, Nebraska. The community of nearly 2400 people is situated in Northeast Nebraska. Madison High School serves a high proportion of Hispanic students. *Schuyler Middle School* Houses students in grade 6 -8 and currently serves approximately 350 students. Nearly 80% of the students are Hispanic, close to 18% are Caucasian and the rest are split between Native Americans and African Americans. About 81% of the students at Schuyler Middle School qualify for free or reduced price lunch. It is served by a Title 1 Schoolwide Plan. *Westbrook Elementary School* is a K-6 elementary school in Westside Community Schools. Westbrook has about 40 percent of students qualifying for free and reduced lunch, which qualifies it as a Title I school. They have a Boy's and Girl's Club on-site for student afterschool programming.

As part of Nebraska SIG **Cohort 6**, an elementary and a high school from separate districts received funds prior to the beginning of the 2015-2016 school year. Lincoln High School was defined as a Tier II school while Wakonda Elementary School was defined as a Tier I school. *Lincoln High School* The oldest high school in Lincoln, tracing its history to 1871. It serves grades 9-12 and has a diverse student body of approximately 1600. Over 35% of the students live in other attendance areas and choose to attend Lincoln High School. *Wakonda Elementary School* is a part of the Omaha Public School District and serves a diverse population of students PK-6. Nearly 90% of the students participate in the free/reduced lunch program. Wakonda gets its name from a Native American word which refers to the "Great Spirit."

Input

Funding over the 6 cohorts totals \$29,573,137. Winnebago, Westside, Madison – Tier 3 and Wakonda – Turnaround, rest are Transformation.

Table 3. SIG Allocations across all six cohorts

Cohort	Total Allocation	School	SIG Allocation
1	\$12,663,446	Crawford Elementary	\$1,259,970
		Santee High School	\$1,616,492
		Santee Elementary	\$1,527,551
		Elliott Elementary	\$3,348,743
		Madison Elementary	\$1,508,750
		Minatare Elementary	\$1,440,547
		Winnebago High	\$1,961,423
2	\$5,670,652	Madison Middle	\$1,697,505
		Stapleton Elementary	\$1,098,553
		Walthill Elementary	\$1,475,500
		Walthill High	\$1,399,095
3	\$2,888,619	Umo N Ho N Nation Elementary	\$1,778,869
		Umo N Ho N Nation Middle	\$414,286
		Umo N Ho N Nation High	\$695,464
4	\$2,705,385	Shelton Elementary	\$364,000
		Winnebago Elementary	\$2,341,385
5	\$2,745,035	Westbrook Elementary	\$298,000
		Schuyler Middle	\$2,072,035
		Madison High	\$375,000
6	\$2,900,000	Lincoln High	\$1,263,401
		Wakonda Elementary	\$1,636,599

Process

Considerable resources have been invested through the SIG program in an attempt to turn around the nation's lowest performing schools. Over \$3 billion dollars were allocated to the program through the American Recovery and Reinvestment Act (ARRA) of 2009. Hundreds of schools around the country are implementing one of the required reform models to improve school conditions and positively impact student academic outcomes. Despite these efforts, relatively little has been done to assess whether the models are being implemented as they were intended to be, either regionally or nationally. In September of 2015 the National Center for Education Evaluation and Regional Assistance released a report summarizing a piece of a large-scale evaluation effort to determine “(1) if states and schools that received grants are actually using the policies and practices promoted by these two programs; (2) if their usage of these policies and practices differ from states and schools that did not receive grants.” The report, titled “Usage of Policies and Practices Promoted by Race to the Top and School Improvement Grants” sets the stage for answering the third question of the large-scale evaluation of the SIG program, “(3) (3) if receipt of these grants ultimately impacted student achievement.” To answer the first two questions, 470 SIG-funded and non SIG-funded schools were surveyed to determine the extent to which they were using the improvement practices promoted by SIG. Not surprisingly, the study found that SIG-funded schools reported using SIG promoted practices more often than non SIG-funded schools. A common definition of fidelity identifies 5 types: adherence, exposure, quality of delivery, participant responsiveness, and program differentiation (Dane & Schneider, 1998). A thorough assessment of intervention fidelity should make attempts to investigate each of these types. Moreover, fidelity data is most powerful when used to determine if the relative level of implementation of the program's core components are associated with differences in observed outcomes. That is, does the way in which the school implements the model impact student outcomes? And if so, how? The framework below proposes a systematic model for assessing intervention fidelity in Nebraska SIG schools.

Intervention Fidelity Assessment

Intervention fidelity is the extent to which and intervention's core components have been implemented as designed. Literature suggests that higher fidelity of implementation is associated with greater treatment effects (Dane & Schneider, 1998; McIntyre et al., 2007; Durlack & DuPre, 2008). It is important assess intervention fidelity in order to make inferences about the effectiveness of the SIG strategies within any specific school or district. While SIG schools are required to report the number of required strategies that are being implemented (e.g. adherence to the model), the other types of fidelity should also be addressed. In addition, a SIG school's action plan may include proposed strategies outside of the SIG model requirements. The implementation of these strategies should also be assessed to develop a comprehensive view. Nelson et al. (2012) outline a systematic framework for assessing intervention fidelity in educational settings. This process opens the 'black box' intervention provides evidence for why an intervention did, or did not, achieve the intended outcomes. The following model would be constructed specific to each SIG school, based on their unique action plan for improvement.

Five-step model:

Step 1. Specify the intervention model. First, the *change model* is specified which involves creating a visual diagram of the hypothesized causal relationships between the underlying

intervention constructs. The change model guides the explication of the intervention *logic model*, a visual representation of the sequence of specific inputs, activities, and outcomes.

Step 2. Identify fidelity indices. Fidelity indices are measurements of the indicators of intervention model components and can include surveys, interviews, observations, artifacts, and other products related to intervention activities. Identifying indicators begins with examining which intervention core components are associated with the constructs depicted in the change model. Ideal intervention indicators are easily differentiated from the control condition and sensitive enough to measure appropriately sized increments of change.

Step 3. Determine index reliability and validity. Effort should be taken to establish reliable and valid indices. Using multiple measures for a single indicator can bolster reliability. Establishing validity for implementation measures can be difficult, especially for newly developed ones. Measures developed based on the core components of the logic model should be consistent with the literature and expert opinion, at a minimum.

Step 4. Combining indices. Multiple indices can be considered separately or combined for an overall fidelity score. How indices are combined depends on the extent to which the measure the same construct or are expected to covary with a particular outcome. Prior to combining, individual indices can be weighted depending on the relative importance of the construct they are designed to measure.

Step 5. Linking fidelity measures to outcome measures. Variability in the relative levels of implementation allow for examination of the impacts of fidelity on outcomes. The *achieved relative strength (ARS)* of the intervention is the difference between the levels of implementation in the treatment condition as compared to the level of implementation in the control condition (Hulleman & Cordray, 2009). ARS and linking fidelity measures to outcomes can be helpful in; identifying weak links in implementation, identifying which core components are most crucial in producing desired outcomes, and determining a cutoff point for sufficient fidelity.

SIG Fidelity Plan

The following table outlines the various activities to be undertaken to carry out the framework for assessing intervention fidelity for the SIG implementation in Nebraska schools.

Table 4. Fidelity Steps and Activities.

Step Number	Activities
<i>Step 1.</i> Specify the intervention model.	1a. Develop the change model specific to the reform model
	1b. Develop the logic model based aligned with school SIG application
<i>Step 2.</i> Identify Fidelity indices	2a. Identify core components of intervention model
	2b. Identify indicators of interest
	2c. Identify indices for each indicator
	2d. Examine extant measures for suitability as indices
	2e. Data collection
<i>Step 3.</i> Determine index reliability and validity	3a. Examine measures against literature and expert opinion.
	3b. Calculate Cronbach's alpha for constructs with multiple measures

<i>Step 4. Combining indices</i>	4a. Organize extant data into indices for both intervention and control groups
	4b. Consider weighting indices based of relative importance
	4c. Consider combining indices based on appropriateness
<i>Step 5. Linking fidelity measures to outcomes</i>	5a. Calculate Achieved Relative Strength (ARS)
	5b. Determine if linking is necessary based on level of fidelity achieved
	5c. (if necessary) Determine which statistical analyses will be used for linking
	5d. Conduct appropriate statistical analyses

Product

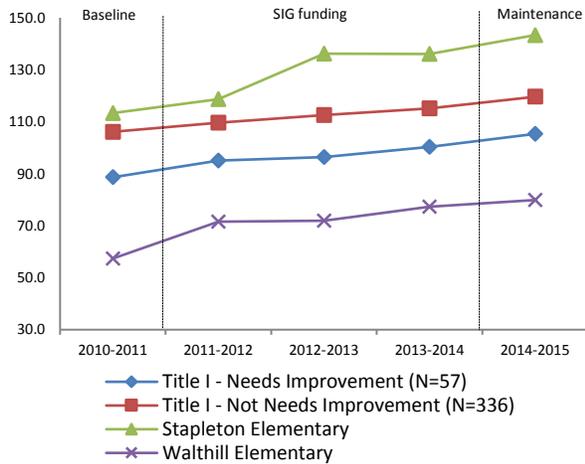
The following section uses longitudinal analyses to compare SIG schools to two samples of Title I schools: those identified as “Needs Improvement” according to Consecutive Years Progress and Title I not in Needs Improvement status. The final sample of Title I schools consists of only those schools that have NeSA – Reading and NeSA – Mathematics scale scores for all 5 data years from 2010-2011 to 2014-2015. Inclusion in the comparison group for any specific cohort is based upon the Title I and CYP statuses in the baseline year. For example, the baseline year for the 2012-2013 cohort is based on the schools’ statuses in the 2011-2012 data year. The school remains in the comparison group for all data years within a cohort, giving a longitudinal view of change over time on the selected outcome measure. The number of schools included in the comparison groups for each cohort is indicated in the legend.

The graphs below display average scale scores for NeSA – Reading and NeSA –Math over a five year period from 2010-2011 to 2014-2015. A scale score of 135 and above indicates ‘Exceeds Standards’, 85 to 134 indicate ‘Meets Standards’, and below 85 indicate ‘Below Standards’. Vertical lines indicating when SIG funding was received. Any years prior to SIG funding are considered baseline years. Visual inspection of the trends is conducted to determine if a change in the outcome measures is observed after SIG a school recieved funding as compared to the non-SIG schools who did not receive funding. Caution should be taken, however, in attributing any observed effects specifically to the SIG program as alternative explanations cannot be ruled out by the current design.

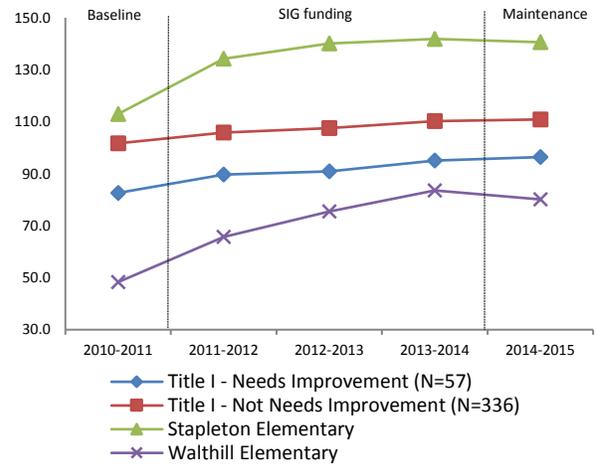
SIG Cohort II – 2011-2012

SIG cohort II includes two elementary schools, one middle school, and one high school. Stapleton Elementary showed improvements in both NeSA – Reading and NeSA – Math relative to the comparison groups. Walthill Elementary started out significantly lower than the comparison groups during baseline but showed improvement in NeSA – Math under SIG funding. Walthill’s NeSA – Reading scores showed a similar trend to the comparison group during the same period of time. Madison Middle school showed declines in both NeSA – Reading and NeSA – Math relative to both comparison groups. Walthill High School showed similar growth to the comparison groups in both Math and Reading.

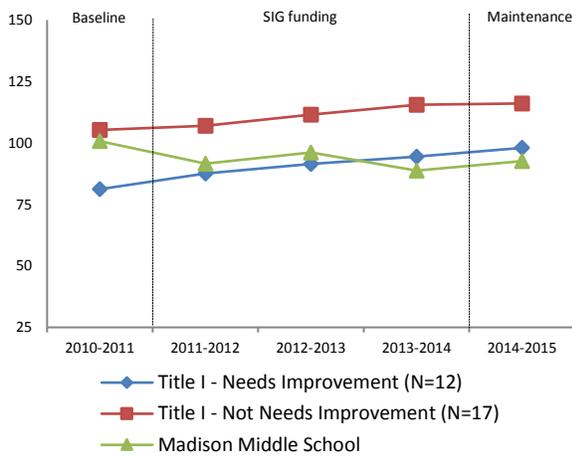
Elementary School NeSA - Reading



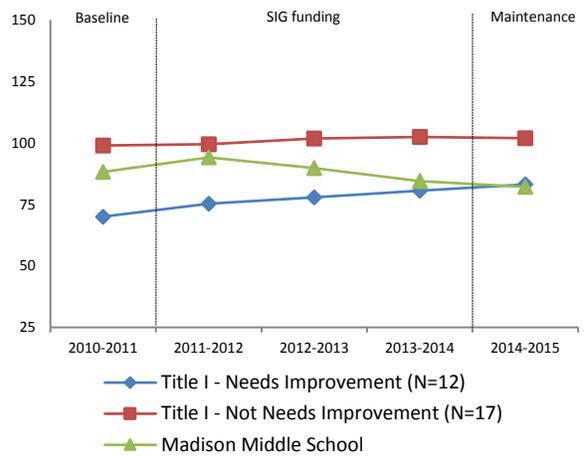
Elementary School NeSA - Math

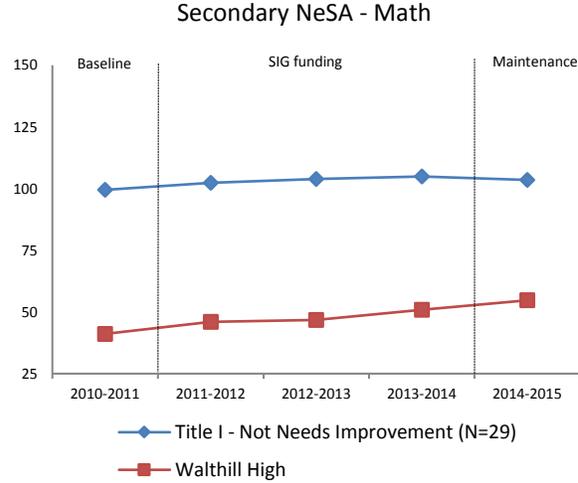
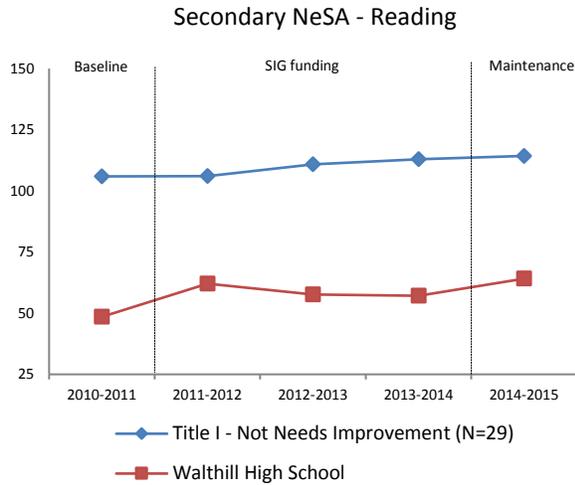


Middle School NeSA - Reading



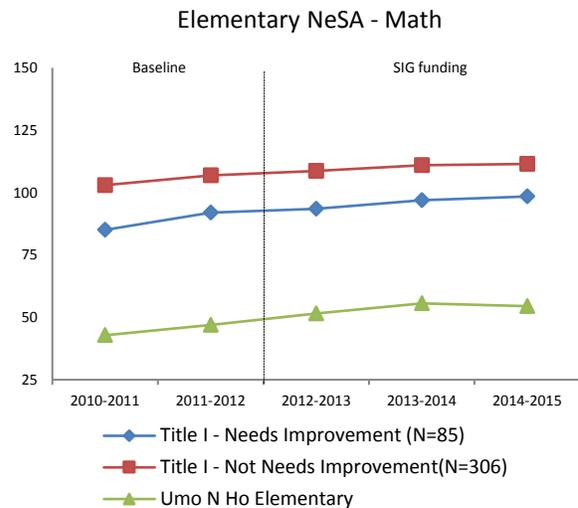
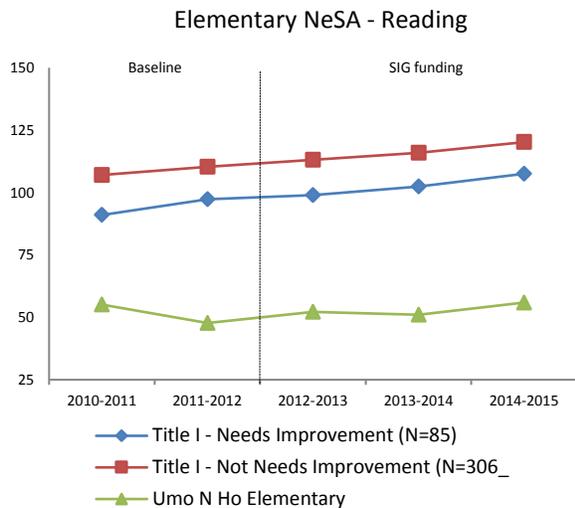
Middle School NeSA - Math



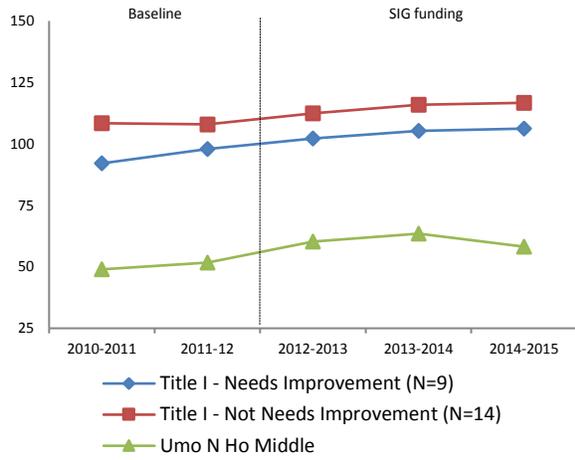


SIG Cohort III – 2012-2013

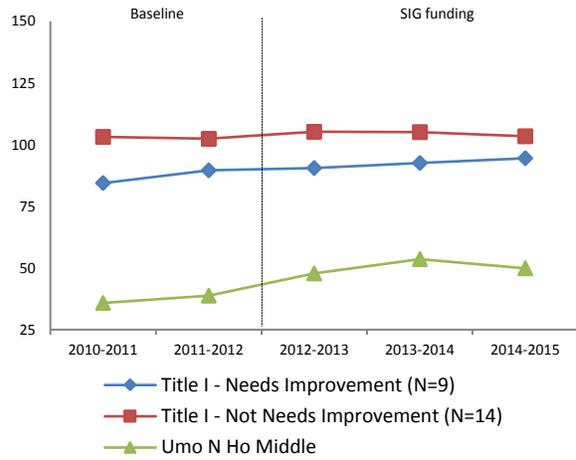
SIG Cohort III includes 3 schools from the same district, Umo N Ho Nation Public Schools. Umo N Ho Elementary school showed little change in Elementary Reading scores while the comparison groups displayed some growth over the same time period. The elementary Math scores, however, showed a similar growth trend relative to the comparison groups but do not appear to be closing the overall performance gap significantly. Umo N Ho Middle School scores appear to be trending similarly to the comparison groups in both Math and Reading. Trends in Math and Reading for Umo N Ho High School show a considerable amount of variability. It is important to note that the sample size for both comparison groups is relatively small (n=3, n=5) so visual interpretation of the trends should be done with caution.



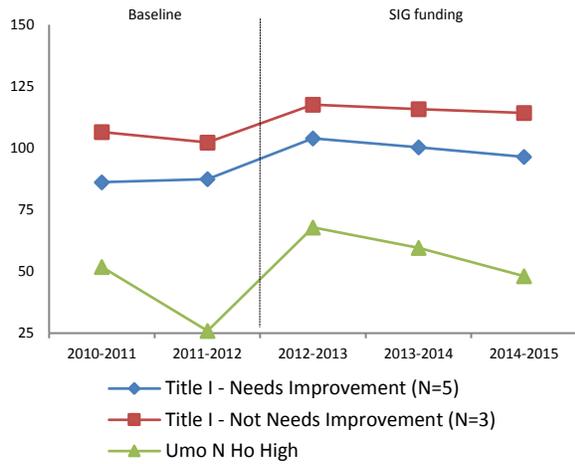
Middle School NeSA - Reading



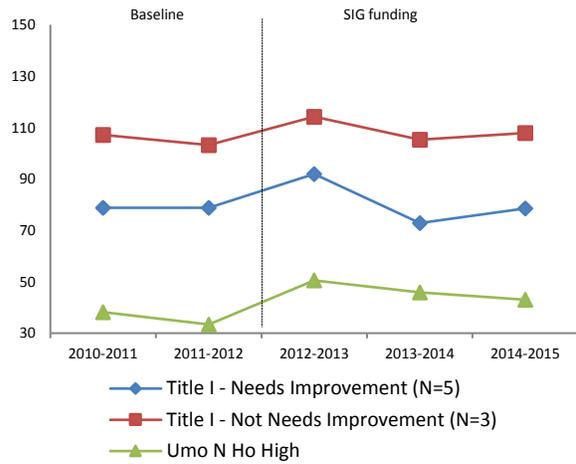
Middle School NeSA - Math



High School NeSA - Reading

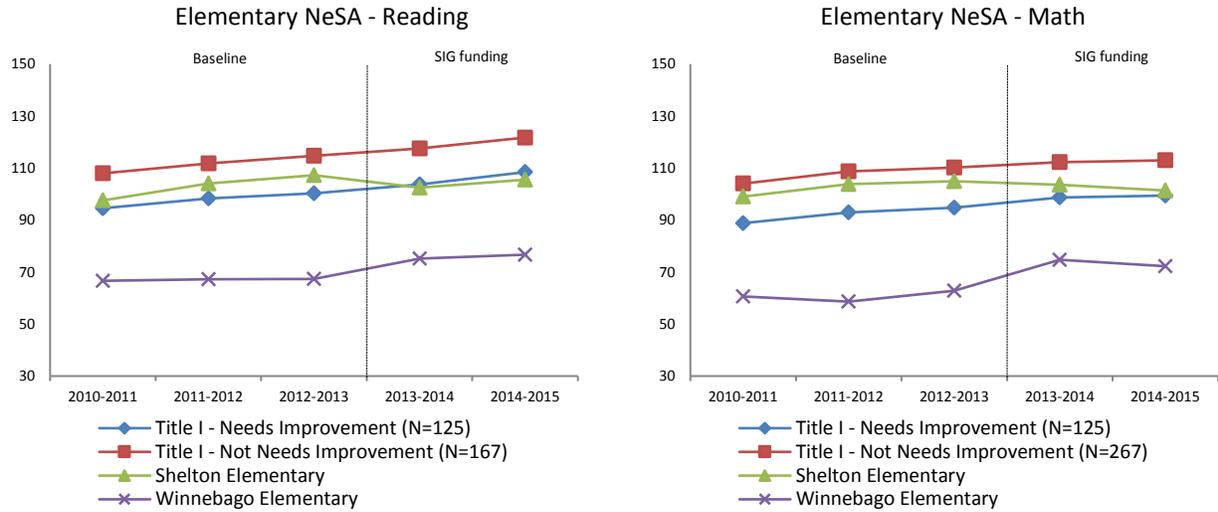


High School NeSA - Math



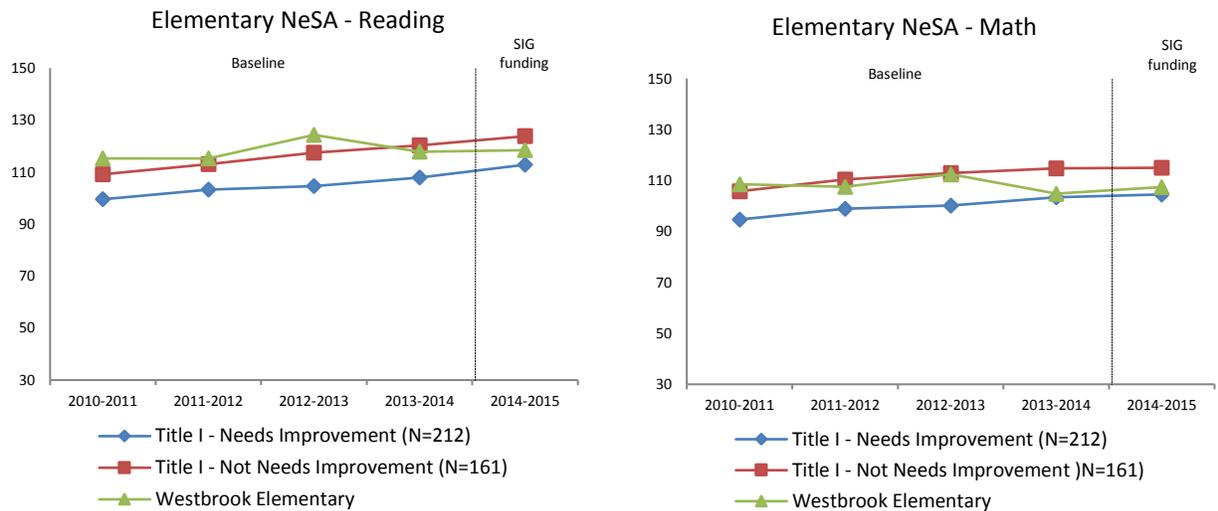
SIG Cohort IV – 2013-2014

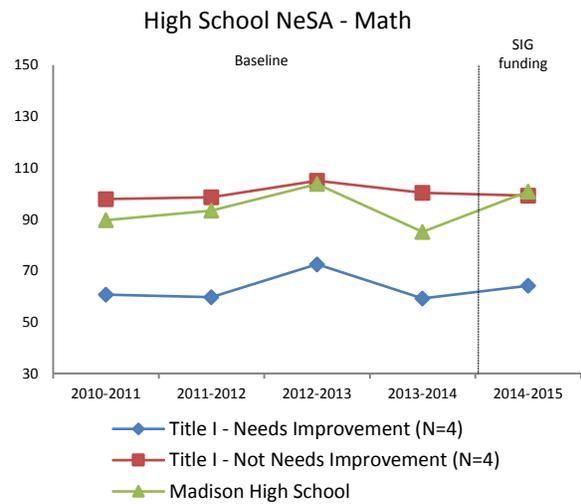
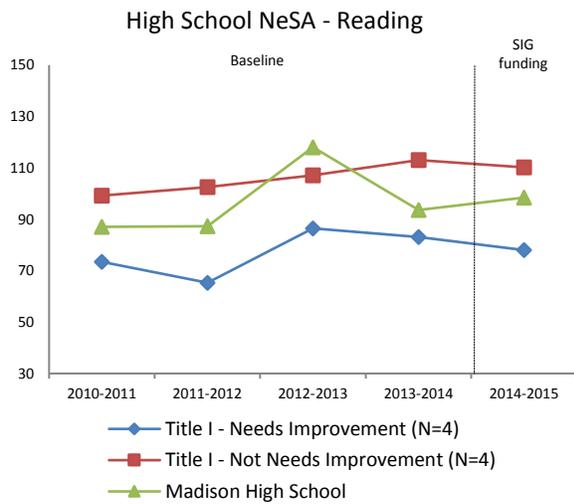
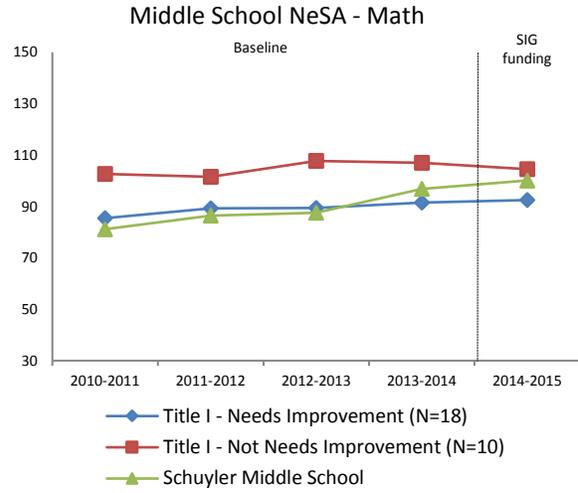
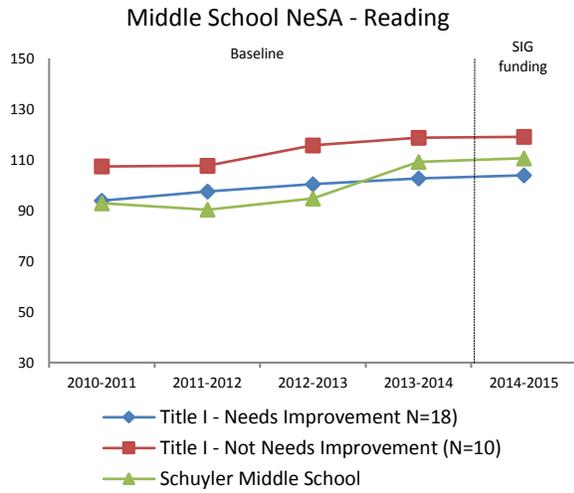
SIG Cohort IV includes two elementary schools. For Shelton Elementary, the baseline trends for both Reading and Math are very similar to both comparison groups. There was a slight drop in scores for both tests, however, upon receiving SIG funding. Winnebago elementary shows similar trends to the comparison groups in both Reading and Math but do not appear to be closing the achievement gap.



SIG Cohort V – 2014-2015

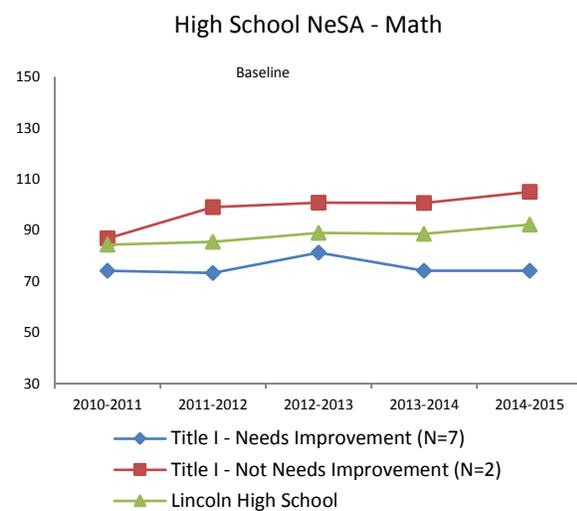
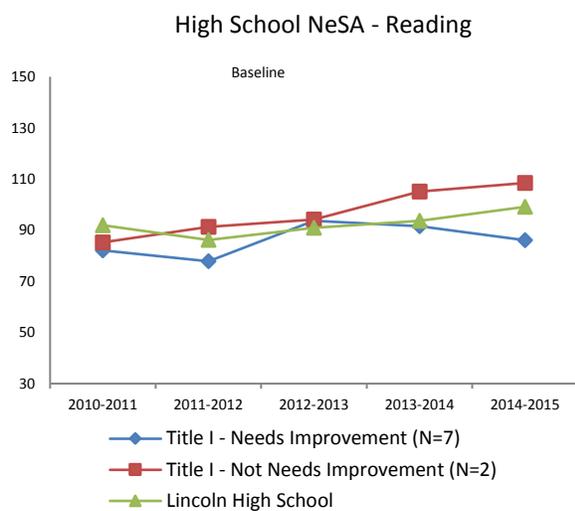
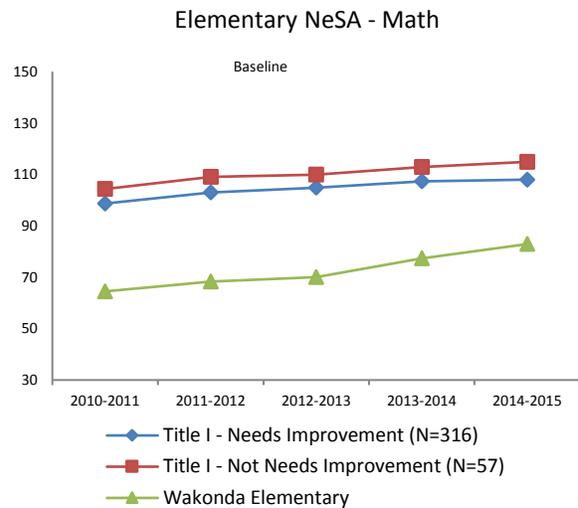
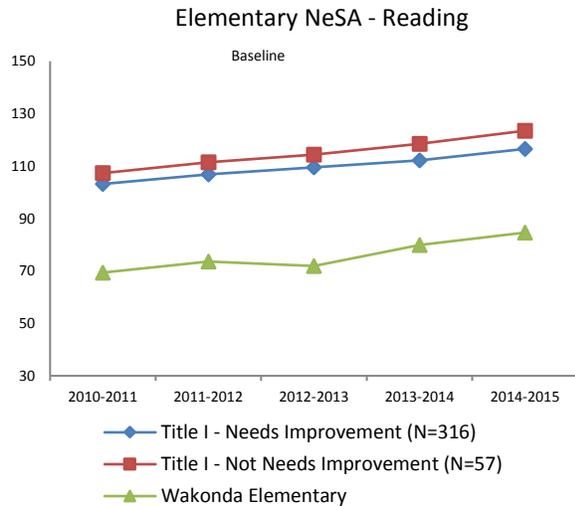
SIG Cohort V includes an elementary school, a middle school, and a high school. Only one year of scores is available under SIG funding. Baseline trends and performance levels for both Westbrook Elementary School and Schuyler Middle School are similar to their respective comparison groups. Baseline trends for Madison High School should be interpreted with caution due to the small sample size of the comparison groups (n=4 for both).





SIG Cohort VI – 2015-2016

SIG Cohort VI includes an elementary school and a high school. Only baseline data is available for cohort VI. Baseline trends for both Wakonda Elementary and Lincoln High School are similar for both Reading and Math.



Summary

A comprehensive evaluation of the implementation and impact of SIGs offers unique challenges. In this report, we provide a framework for evaluation implementation fidelity based on intervention research. Carrying out this framework with one or more schools would provide valuable information about how (and how well) schools are implementing their chosen model of improvement. Evaluating impact is even more challenging given the SIG models are long-term solutions to long existing problems. The use of administrative data coupled with the collection of fidelity data over a long period provide a means for understanding the impact of SIGs.

Appendix A.

Appendix A.1. Student Race/Ethnicity for SIG Schools.

School Name	HI	AI/AN	AS	BL/AA	NH/PI	WH	2+
Cohort 1							
Crawford Elementary	2	4	0	0	0	117	0
Santee High	4	52	0	0	0	0	0
Santee Elementary	12	105	0	0	0	2	0
Elliott Elementary	116	13	40	0	46	110	46
Madison Elementary	157	1	1	3	0	36	0
Minatare Elementary	47	3	0	0	0	61	0
Winnebago High	8	122	0	0	0	1	0
Cohort 2							
Madison Elementary	90	1	0	0	0	35	1
Stapleton Elementary	4	1	0	0	0	111	0
Walthill Elementary	0	193	0	2	0	10	0
Walthill High	0	107	1	2	0	0	1
Cohort 3							
Umo N Ho N Nation Elementary	2	370	0	0	0	3	0
Umo N Ho N Nation Middle	0	51	0	0	0	0	2
Umo N Ho N Nation High	5	78	0	0	0	0	0
Cohort 4							
Shelton Elementary	31	1	0	5	0	115	0
Winnebago Elementary	28	364	0	0	1	4	19
Cohort 5							
Madison High	124	2	0	0	0	51	1
Schuyler Middle	298	10	0	7	0	39	1
Westbrook Elementary	48	5	21	90	0	304	41

Note: HI = Hispanic, AI/AN = American Indian or Alaskan Native, AS = Asian, BL/AA = Black or African American, NH/PI = Native Hawaiian or Pacific Islander, WH = White, 2+ = Two or more races.

Appendix A.2. Characteristics of SIG Schools

School Name	Grade Range	%FRL	%ELL	% Mobility	Enrollment	% Teachers with Master's	Avg. Years Experience
Cohort 1							
Crawford Elementary School	PK-6	39.8	*	9.6	104	14.3	17.9
Santee High School	9-12	80.4	*	37.5	56	28.6	9.4
Santee Elementary School	K-6	79.8	*	22.6	93	20.0	9.9
Elliott Elementary School	K-5	93.0	33.5	28.1	388	27.5	8.9
Madison Elementary School	PK-5	59.1	13.3	22.9	188	38.1	19.3
Minatare Elementary School	K-6	73.9	18.9	26.1	111	0.0	14.0
Winnebago High School	9-12	77.9	*	42.0	131	44.4	13.9
Cohort 2							
Madison Middle	6-8	62.2	*	17.0	127	31.6	13.7
Stapleton Elementary	PK-6	31.0	*	*	116	8.3	14.0
Walthill Elementary	PK-6	91.2	11.4	36.4	205	43.5	13.6
Walthill High	7-12	89.2	26.1	43.2	111	55.6	14.7
Cohort 3							
Umo N Ho N Nation Elementary	PK-6	94.4	*	24.7	375	25.0	12.4
Umo N Ho N Nation Middle	7-8	84.9	*	37.7	53	26.7	14.3
Umo N Ho N Nation High	9-12	86.8	*	71.1	83	29.4	15.2
Cohort 4							
Shelton Elementary	PK-6	48.7	6.7	17.5	152	12.5	10.6
Winnebago Elementary	PK-8	86.5	*	18.2	416	46.7	11.2
Cohort 5							
Madison High	9-12	61.8	*	8.3	178	30.0	11.7
Schuyler Middle	6-8	84.8	10.7	8.2	355	34.4	14.6
Westbrook Elementary	PK-6	52.3	3.6	13.2	509	69.2	10.8

Appendix A.3. SIG Cohort 2 NeSA Average Scale Scores

	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015
NeSA Reading – Elementary Schools					
Title I - Needs Improvement (N=57)	88.6	95.0	96.4	100.3	105.3
Title I - Not Needs Improvement (N=336)	106.1	109.6	112.5	115.2	119.6
Stapleton Elementary	113.3	118.7	136.1	136.1	143.3
Walthill Elementary	57.4	71.6	72.0	77.3	79.9
NeSA Math – Elementary Schools					
Title I - Needs Improvement (N=57)	82.6	89.6	90.9	95.0	96.4
Title I - Not Needs Improvement (N=336)	101.7	105.8	107.5	110.2	110.9
Stapleton Elementary	113.0	134.2	140.1	141.8	140.6
Walthill Elementary	48.3	65.6	75.5	83.6	80.1
NeSA Reading – Middle Schools					
Title I - Needs Improvement (N=12)	81.2	87.7	91.5	94.5	98.0
Title I - Not Needs Improvement (N=17)	105.3	107.0	111.5	115.5	116.1
Madison Middle School	100.7	91.6	96.1	88.8	92.6
NeSA Math – Middle Schools					
Title I - Needs Improvement (N=12)	70.0	75.3	77.9	80.6	83.1
Title I - Not Needs Improvement (N=17)	99.0	99.5	101.8	102.5	102.0
Madison Middle School	88.2	94.1	89.8	84.5	82.1
NeSA Reading – Secondary Schools					
Title I - Not Needs Improvement (N=29)	105.9	106.0	110.9	112.9	114.3
Walthill High School	48.5	62.0	57.6	57.2	64.1
NeSA Math – Secondary Schools					
Title I - Not Needs Improvement (N=29)	99.5	102.4	103.8	104.9	103.5
Walthill High School	41.1	46.1	46.7	50.8	54.7

Appendix A.4. SIG Cohort 3 NeSA Average Scale Scores

	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015
NeSA Reading – Elementary Schools					
Title I - Needs Improvement (N=85)	91.0	97.3	98.9	102.4	107.5
Title I - Not Needs Improvement (N=306)	107.0	110.4	113.1	115.9	120.2
Umo N Ho Elementary School	55.1	47.7	52.2	51.1	55.9
NeSA Math – Elementary Schools					
Title I - Needs Improvement (N=85)	85.0	91.9	93.4	97.0	98.4
Title I - Not Needs Improvement (N=306)	103.0	106.8	108.6	111.0	111.5
Umo N Ho Elementary School	42.8	47.0	51.57	55.6	54.5
NeSA Reading – Middle Schools					
Title I - Needs Improvement (N=9)	92.1	97.9	102.2	105.3	106.2
Title I - Not Needs Improvement (N=14)	108.4	108.0	112.4	115.9	116.7
Umo N Ho Middle School	49.0	51.7	60.3	63.5	58.2
NeSA Math – Middle Schools					
Title I - Needs Improvement (N=9)	84.4	89.6	90.5	92.6	94.5
Title I - Not Needs Improvement (N=14)	103.1	102.4	105.2	105.0	103.3
Umo N Ho Middle School	35.8	38.8	47.8	53.6	49.9
NeSA Reading – Secondary Schools					
Title I - Needs Improvement (N=5)	86.2	87.4	104.0	100.3	96.4
Title I - Not Needs Improvement (N=3)	106.6	102.3	117.6	115.8	114.3
Umo N Ho High School	51.8	25.9	67.9	59.5	48.1
NeSA Math – Secondary Schools					
Title I - Needs Improvement (N=5)	78.8	78.8	91.9	72.8	78.5
Title I - Not Needs Improvement (N=3)	107.2	103.2	114.2	105.3	107.9
Umo N Ho High School	38.2	33.4	50.5	45.9	43.0

Appendix A.5. SIG Cohort 4 NeSA Average Scale Scores.

	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015
NeSA Reading – Elementary Schools					
Title I - Needs Improvement (N=125)	94.6	98.3	100.2	103.7	108.5
Title I - Not Needs Improvement (N=167)	108.0	111.8	114.7	117.5	121.8
Shelton Elementary School	97.6	104.0	107.3	102.4	105.5
Winnebago Elementary School	66.6	67.2	67.3	75.2	76.7
NeSA Math – Elementary Schools					
Title I - Needs Improvement (N=125)	88.8	92.9	94.8	98.7	99.4
Title I - Not Needs Improvement (N=267)	104.0	108.7	110.2	112.3	113.0
Shelton Elementary School	99.0	103.8	104.9	103.6	101.4
Winnebago Elementary School	60.6	58.6	62.8	74.7	72.3

Appendix A.6. SIG Cohort 5 NeSA Average Scale Scores.

	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015
NeSA Reading – Elementary Schools					
Title I - Needs Improvement (N=212)	99.5	103.2	104.6	107.9	112.8
Title I - Not Needs Improvement (N=161)	109.1	113.1	117.5	120.3	123.8
Westbrook Elementary	115.2	115.3	124.3	117.8	118.5
NeSA Math – Elementary Schools					
Title I - Needs Improvement (N=212)	94.7	99.0	100.2	103.5	104.5
Title I - Not Needs Improvement (N=161)	105.8	110.4	112.9	114.8	115.0
Westbrook Elementary	108.5	107.5	112.5	104.8	107.4
NeSA Reading – Middle Schools					
Title I - Needs Improvement (N=18)	93.9	97.6	100.4	102.7	103.9
Title I - Not Needs Improvement (N=10)	107.4	107.7	115.7	118.7	119.1
Schuyler Middle School	92.8	90.3	94.7	109.2	110.6
NeSA Math – Middle Schools					
Title I - Needs Improvement (N=18)	85.4	89.3	89.4	91.5	92.5
Title I - Not Needs Improvement (N=10)	102.7	101.5	107.7	107.0	104.4
Schuyler Middle School	81.2	86.5	87.6	96.8	100.1
NeSA Reading – High Schools					
Title I - Needs Improvement (N=4)	73.5	65.3	86.5	83.1	78.0
Title I - Not Needs Improvement (N=4)	99.2	102.5	107.1	113.0	110.2
Madison High School	87.1	87.3	118.1	93.6	98.4
NeSA Math – High Schools					
Title I - Needs Improvement (N=4)	60.7	59.7	72.5	59.2	64.2
Title I - Not Needs Improvement (N=4)	97.9	98.6	105.0	100.3	99.2
Madison High School	89.7	93.4	103.7	85.1	100.9

Appendix A.7. SIG Attendance Rates by Year.

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Cohort 1					
Madison Middle	96.0%	97.0%	96.0%	96.0%	96.0%
Stapleton Elementary	96.0%	97.0%	96.0%	98.0%	95.0%
Walthill Elementary	92.0%	89.0%	89.0%	87.0%	86.0%
Walthill High	80.0%	82.0%	81.0%	82.0%	82.0%
Cohort 2					
Umo N Ho Elementary	86.0%	83.0%	83.0%	85.0%	85.0%
Umo N Ho Middle	83.0%	81.0%	85.0%	81.0%	83.0%
Umo N Ho High	70.0%	69.0%	75.0%	73.0%	70.0%
Cohort 3					
Shelton Elementary	97.0%	97.0%	96.0%	97.0%	97.0%
Winnebago Elementary	93.0%	94.0%	95.0%	94.0%	93.0%
Cohort 4					
Madison High	94.0%	95.0%	95.0%	94.0%	94.0%
Schuyler Middle	97.0%	97.0%	97.0%	96.0%	96.0%
Westbrook Elementary	96.0%	97.0%	97.0%	96.0%	97.0%
Cohort 5					
Lincoln High	89.0%	91.0%	91.0%	91.0%	89.0%
Wakonda Elementary	94.0%	94.0%	94.0%	95.0%	94.0%

Appendix A.8. SIG Instructional Program Hours by Year.

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Cohort 1					
Madison Middle	1100	1155	1096	1097	1112
Stapleton Elementary	1142	1240	1240	1268	1179
Walthill Elementary	1179	1203	1215	1223	1212
Walthill High	1126	1131	1184	1196	1178
Cohort 2					
Umo N Ho Elementary	1048	1084	1067	1100	1079
Umo N Ho Middle	1058	1133	1104	1157	1118
Umo N Ho High	1093	1142	1098	1157	1118
Cohort 3					
Shelton Elementary	1152	1144	1157	1098	1091
Winnebago Elementary	1056	1080	1099	1134	1147
Cohort 4					
Madison High	1100	1138	1096	1097	1111
Schuyler Middle	1049	1052	1166	1126	1045
Westbrook Elementary	1096	1119	1069	1076	1093
Cohort 5					
Lincoln High	1109	1137	1121	1139	1132
Wakonda Elementary	1043	1068	1043	1087	1075

Appendix A.9. SIG District Dropout Rates.

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Cohort 1					
Walthill High	*	5.4%	0%	3.7%	*
Cohort 2					
Umo N Ho High	0.1%	0.1%	0.1%	5.5%	*
Cohort 4					
Madison High	3.1%	2.0%	1.8%	1.9%	*
Cohort 5					
Lincoln High	2.4%	2.0%	*	1.5%	*

Appendix A.10. SIG Graduation Rates.

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Cohort 1					
Walthill High	75.0%	77.0%	79.0%	75.0%	*
Cohort 2					
Umo N Ho High	45.0%	49.0%	48.0%	52.0%	*
Cohort 4					
Madison High	82.0%	79.0%	84.0%	91.0%	*
Cohort 5					
Lincoln High	69.0%	69.0%	69.0%	67.0%	*

References

Redding, S., Dunn, L., & McCauley, C. (2015). *School Improvement Grants: Guidance and tools for the 2015 amended regulations: Maximizing the optional planning/pre-implementation year*. San Francisco: WestEd.

Stufflebeam, D. L. (2003). *The CIPP model for evaluation*. In D. L. Stufflebeam, & T. Kellaghan, (Eds.), *The international handbook of educational evaluation* (Chapter 2). Boston: Kluwer Academic Publishers.

Dane AV, Schneider BH. Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review* 1998; 18:23–45.